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10/580,606	05/25/2006	Yoshimichi Harada	01600091AA	4979
30743 7590 02/18/2010 WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190				
EXAMINER CRAWFORD, LATANYA N				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,606

Applicant(s)

HARADA ET AL.

Examiner

LATANYA CRAWFORD

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

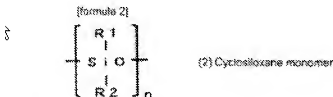
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 5-7, & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (JP 2004047873 A).**

Regarding claim 1, Hayashi et al. discloses a method of producing a porous insulating film, comprising the step of: introducing gas containing vapor of cyclic organic silica compounds, which have silicon and oxygen skeletons and have at least one unsaturated hydrocarbon group bound with a side chain of a skeleton (TVTMCTS), and which is diluted with an inert gas (helium), into plasma to grow a porous insulating film on a semiconductor substrate [0101][0102][0122].

Regarding claim 5, Hayashi et al. discloses wherein said cyclic organic silica compounds are cyclosiloxane monomers represented by the following formula (2):

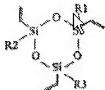


where R1 and R2 are respectively any one of the group consisting of hydrogen, an alkyl group, an alkoxide group, an amino group, alkene, alkyne, a phenyl group and

a phenol group, provided that R1 and R2 may be the same or different, provided that at least one of the side chain groups is an unsaturated hydrocarbon group, and n is an integer of 2 or more [0058].

Regarding claim 6, Hayashi et al. discloses wherein said cyclic organic silica compounds are trivinylcyclotrisiloxane derivative monomers represented by the following formula (3) [0058]:

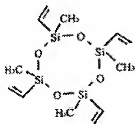
[formula 3]



(3) Trivinylcyclotrisiloxane derivative

Regarding claim 7, Hayashi et al. discloses wherein said cyclic organic silica compound is tetravinyltetramethylcyclotetrasiloxane monomers represented by the following formula (4) [0054]:

§



Regarding claim 9, Hayashi et al. discloses wherein said plasma is plasma of rare gas [0101].

3. Claims 11-17, 19-21, & 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (JP 2004047873 A)

Regarding claim 11, Hayashi et al. discloses A porous insulating film produced by the method of producing a porous insulating film according to claim 1[0101][0102][0122].

Regarding claim 12, Hayashi et al. discloses comprising at least silicon, carbon, oxygen and hydrogen and having a Raman spectrum corresponding to at least three-membered silica skeleton in the Raman spectroscopic analysis.

Regarding claim 13, Hayashi et al. discloses wherein ratios of elements in the film is: O/Si = 0.8 to 1.2, C/Si = 1.5 to 10.0 and H/Si = 4.0 to 15.0 (properties presumed inherent MPEP2112.01).

Regarding claim 14, Hayashi et al. discloses wherein the diameter of pores contained in the film is 3 nm or less (properties presumed inherent MPEP2112.01).

Regarding claim 15, Hayashi et al. discloses wherein at least a part of pores contained in the film have almost the same diameters as a skeleton of said cyclic organic silica compounds(properties presumed inherent MPEP2112.01).

Regarding claim 16, Hayashi et al. discloses a layer insulating film of a multilayer wiring [0109].

Regarding claim 17, Hayashi et al. discloses wherein in the vicinity of a interface between the porous insulating film and a non-porous insulating film, a relative

concentration of carbon atom in at least the porous insulating film changes stepwise or continuously [0112].

Regarding claim 19, Hayashi et al, discloses wherein said cyclic organic silica compounds are cyclosiloxane monomers represented by said formula (2), where R1 and R2 are any one selected from the group consisting of hydrogen, an alkyl group, an alkoxide group, an amino group, alkene, alkyne, a phenyl group and a phenol group, provided that R1 and R2 may be the same or different, provided that at least one of side chain groups is an unsaturated hydrocarbon group, and n is an integer of 2 or more [0058].

Regarding claim 20, Hayashi et al. discloses wherein said cyclic organic silica compounds are tetravinyltetramethylcyclotetrasiloxane monomers represented by said formula (4) [0054].

Regarding claim 21, Hayashi et al. discloses wherein said cyclic organic silica compounds are trivinylcyclotrisiloxane derivative monomers represented by said formula (3) [0058].

Regarding claim 36, Hayashi et al. discloses wherein said cyclic organic silica compounds have a six-membered ring structure consisting of three silicon atoms and three oxygen atoms [0058].

4. Claims 2-4, 8, 30, 31,18, &22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (JP 2004047873 A)

Regarding claim 2, Hayashi et al. discloses a method of producing a porous insulating film, comprising the step of: introducing vapor of cyclic organic silica compounds, which have silicon and oxygen skeletons and have at least one unsaturated hydrocarbon group bound with a side chain of a skeleton (TVTMCTS), and which is diluted with an inert gas (helium), and vapor of straight-chain organic silica compounds (BCBDVS), which have silicon and oxygen skeletons and have any one selected from the group consisting of hydrogen, a hydrocarbon group and a hydrocarbon oxide group bound with a side chain of a skeleton, and which is diluted with an inert gas, into plasma to grow a porous insulating film on a semiconductor substrate [0101][0102] [0122].

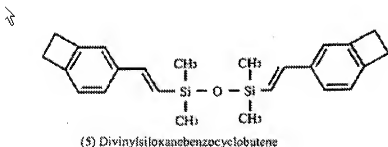
Regarding claim 3, Hayashi et al. discloses wherein said straight-chain organic silica compounds have a structure represented by the following formula (1)



where R1 to R6 which may be the same or different, respectively represent any one selected from the group consisting of hydrogen, a hydrocarbon group and a hydrocarbon oxide group [0062].

Regarding claim 4, Hayashi et al. discloses wherein a supply ratio of said cyclic organic silica compounds to said straight-chain organic silica compounds is changed during film formation [0105].

Regarding claim 8, Hayashi et al. discloses wherein said cyclic organic silica compounds are tetravinyltetramethyl-cyclotetrasiloxane monomers represented by the formula (4) [0054] and said straight-chain organic silica compounds are divinylsiloxanebenzocyclobutene monomers represented by the following formula (5) [0071-0083]:

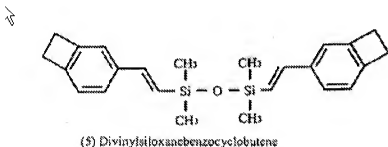


Regarding claim 30, Hayashi et al. discloses a porous insulating film produced by the method of producing a porous insulating film according to claim 2 [0101][0102] [0122].

Regarding claim 31, Hayashi et al. discloses a semiconductor device using the porous insulating film produced by the method of claim 30 [0109].

Regarding claim 18, Hayashi et al. discloses wherein said straight-chain organic silica compounds have a structure represented by said formula (1) [0062].

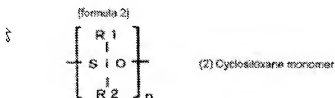
Regarding claim 22, Hayashi et al. discloses straight-chain organic silica compounds are divinylsiloxanebenzocyclobutene monomers represented by the following formula (5) [0071-0083]:



5. **Claims 1, 5, 6, 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kashiwagi (US Pub no. 2004/0212114 A1).**

Regarding claim 1, Kashiwagi et al. discloses a method of producing a porous insulating film, comprising the step of: introducing gas containing vapor of cyclic organic silica compounds, which have silicon and oxygen skeletons and have at least one unsaturated hydrocarbon group bound with a side chain of a skeleton (gas source-29), and which is diluted with an inert gas (31), into plasma to grow a porous insulating film on a semiconductor substrate [0029][0031] [0040-0041][0052].

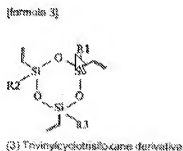
Regarding claim 5, Kashiwagi et al. discloses wherein said cyclic organic silica compounds are cyclosiloxane monomers represented by the



following formula (2):

where R1 and R2 are respectively any one of the group consisting of hydrogen, an alkyl group, an alkoxide group, an amino group, alkene, alkyne, a phenyl group and a phenol group, provided that R1 and R2 may be the same or different, provided that at least one of the side chain groups is an unsaturated hydrocarbon group, and n is an integer of 2 or more [0040].

Regarding claim 6, Kashiwagi et al. discloses wherein said cyclic organic silica compounds are trivinylcyclotrisiloxane derivative monomers represented by the following formula (3) [0040]:



Regarding claim 36, Kashiwaga et al. discloses wherein said cyclic organic silica compounds have a six-membered ring structure consisting of three silicon atoms and three oxygen atoms [0040].

6. Claims 11, 16, 19, & 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kashiwagi (US Pub no. 2004/0212114 A1).

Regarding claim 11, Kashiwaga et al. discloses a porous insulating film produced by the method of producing a porous insulating film according to claim 1[0029] [0029][0031] [0040-0041][0052]..

Regarding claim 16, Kashiwaga et al. discloses a semiconductor device using the porous insulating film according to claim 11 as a layer insulating film of a multilayer wiring [0004].

Regarding claim 19, Kashiwaga et al. discloses wherein said cyclic organic silica compounds are cyclosiloxane monomers represented by said formula (2), where R1 and R2 are any one selected from the group consisting of hydrogen, an alkyl group, an alkoxide group, an amino group, alkene, alkyne, a phenyl group and a phenol group, provided that R1 and R2 may be the same or different, provided that at least one of side chain groups is an unsaturated hydrocarbon group, and n is an integer of 2 or more [0040].

Regarding claim 21, Kashiwaga et al. discloses wherein said cyclic organic silica compounds are trivinylcyclotrisiloxane derivative monomers represented by said formula (3)[0040].

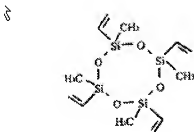
Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwagi (US Pub no. 2004/0212114 A1) in view of Miyoshi (US Pub no. 2004/0253777 A1).**

Regarding claim 7, Kashiwagi et al discloses a porous insulating film according to claim 5 and said cyclic organic compound (29) [0040] but fail to teach wherein said cyclic organic silica compound is tetravinyltetramethylcyclotetrasiloxane monomers represented by the following formula (4):



However, Miyoshi et al. discloses cyclic organic silica compound is tetravinyltetramethylcyclotetrasiloxane monomers [0044]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kashiwagi et al. with tetravinyltetramethylcyclotetrasiloxane monomer as taught by Miyoshi et al. Since Kashiwagi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2004047873 A) in view of Gates (US Pub no. 2005/0276930 A1).

Regarding claim 10, Hayashi et al. discloses all the claim limitations of claim 1 but fails to teach wherein said plasma is plasma of mixture gas of rare gas and oxidizer gas or hydrogenated silicon gas.

However, Gates et al. teaches said plasma is plasma of mixture gas of rare gas and oxidizer gas or hydrogenated silicon gas [0069]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hayashi et al. with the teachings of Gates since it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

10. Claims 32-35, & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwagi (US Pub no. 2004/0212114 A1) in view of Wu (US Patent 7,241,704 B1).

Regarding claim 32, Kashiwagi et al. discloses cyclic wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton [0040] but fails to teach wherein said saturated hydrocarbon group has at least two carbon atoms.

However, Wu et al. discloses wherein said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane)(column 5, lines 19-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kashiwagi et al. with said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane)as taught by Wu et al. Since Kashiwagi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Regarding claim 33, Wu et al. discloses wherein said saturated hydrocarbon group is methyl group a propyl group ($-\text{CH}_2\text{CH}_2\text{CH}_3$) (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

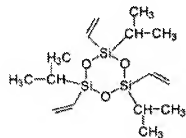
Regarding claim 34, Wu et al. discloses wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton, and wherein said saturated hydrocarbon group has at least three carbon

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atoms and has a branched structure. (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

Regarding claim 35, Wu et al. discloses wherein said saturated hydrocarbon group is an isopropyl group ($-\text{CH}_2\text{CH}_3$) or a tertiary butyl group ($-\text{C}(\text{CH}_3)_3$) (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

Regarding claim 37, Wu et al. discloses wherein said cyclic organic silica compounds are trivinyltrisopropylcyclotrisiloxane monomers represented by formula (6). A prima facie case of obviousness exists for the same reasoning in claim 32.



(6).

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwagi (US Pub no. 2004/0212114 A1) in view of Miyoshi (US Pub no. 2004/0253777 A1).

Regarding claim 20, Kashiwagi et al. discloses cyclic organic silica compounds [0040] but fails to teach tetravinyltetramethylcyclotetrasiloxane monomers represented by said formula (4).

However, Miyoshi et al. discloses cyclic organic silica compound is tetravinyltetramethylcyclotetrasiloxane monomers [0044]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kashiwagi et al. with tetravinyltetramethylcyclotetrasiloxane monomer as taught by Miyoshi et al. Since Kashiwagi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

12. Claims 32-35 & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2004047873 A) in view of Wu (US Patent 7,241,704 B1).

Regarding claim 32, Hayashi et al. discloses cyclic wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton [0101] as applied to claim 1 but fails to teach wherein said saturated hydrocarbon group has at least two carbon atoms.

However, Wu et al. discloses wherein said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane) (column 5, lines 19-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hayashi et al. with said saturated hydrocarbon group has at least two

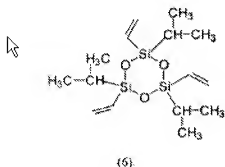
carbon atoms (trivinyltriisopropylcyclotrisiloxane) as taught by Wu et al. Since Hayashi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Regarding claim 33, Wu et al. discloses wherein said saturated hydrocarbon group is methyl group a propyl group ($-\text{CH}_2\text{CH}_2\text{CH}_3$) (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

Regarding claim 34, Wu et al. discloses wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton, and wherein said saturated hydrocarbon group has at least three carbon atoms and has a branched structure. (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

Regarding claim 35, Wu et al. discloses wherein said saturated hydrocarbon group is an isopropyl group ($-\text{CH}_2\text{CH}_3$) or a tertiary butyl group ($-\text{C}(\text{CH}_3)_3$) (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.

Regarding claim 37, Wu et al. discloses wherein said cyclic organic silica compounds are trivinyltriisopropylcyclotrisiloxane monomers represented by formula (6) (column 5, lines 19-20). A prima facie case of obviousness exists for the same reasoning in claim 32.



13. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2004047873 A) in view of Wu (US Patent 7,241,704 B1).

Regarding claim 38, Hayashi et al. discloses cyclic wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton [0101] as applied to claim 1 but fails to teach wherein said saturated hydrocarbon group has at least two carbon atoms.

However, Wu et al. discloses wherein said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane) (column 5, lines 19-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hayashi et al. with said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane) as taught by Wu et al. Since Hayashi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

14. Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2004047873 A).

Regarding claim 23, Hayashi et al. discloses a porous insulating film, wherein the specific inductive capacity is equal to or greater than 2.1 and equal to or smaller than 2.7 and wherein pores within said porous insulating film are enclosed within silica skeletons formed from polymerized cyclic organic silica molecules [0107][0110]. Since Hayashi et al. teaches the same cyclic organic silica with unsaturated hydrocarbon and straight chained organic silica with unsaturated hydrocarbon diluted in inert gas with a plasma a prima facie case of obviousness exists that it would be reasonably expected that the process disclosed by Hayashi et al. would result in a porous insulating film having a distribution of pore diameter with a single peak. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Regarding claims 24-27, Hayashi et al. discloses a porous insulating film. Since Hayashi et al. teaches the same cyclic organic silica with unsaturated hydrocarbon and straight chained organic silica with unsaturated hydrocarbon diluted in inert gas with a plasma a prima facie case of obviousness exists that it would be reasonably expected that the process disclosed by Hayashi et al. would result in a porous insulating film having wherein a ratio of elements in the film is C/Si = 1.5 to 10.0, ratio of elements in the film is O/Si = 0.8 to 1.2, ratio of elements in the film is H/Si = 4.0 to 15.0, and a pore diameter at the maximum frequently appearance is equal to or smaller than 1 μm . *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Regarding claim 28, Hayashi et al. discloses comprising three membered silica[0058].

Regarding claim 29, Hayashi et al. discloses a semiconductor device using the porous insulating film according to claim 23 as a layer insulating film[0109].

15. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2004047873 A) in view of Wu (US Patent 7,241,704 B1).

Regarding claim 39, Hayashi et al. discloses cyclic wherein said cyclic organic silica compounds have a saturated hydrocarbon group bound with another side chain of said skeleton [0101] as applied to claim 1 but fails to teach wherein said saturated hydrocarbon group has at least two carbon atoms.

However, Wu et al. discloses wherein said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane)(column 5, lines 19-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hayashi et al. with said saturated hydrocarbon group has at least two carbon atoms (trivinyltriisopropylcyclotrisiloxane)as taught by Wu et al. Since Hayashi et al. teaches that similar compounds can be used, it has been held that simple substitution of one known element for another to obtain predictable results is obvious. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Response to Arguments

16. Applicant's arguments, see remarks, filed 10/14/2009, with respect to claims 1-31 have been fully considered and are persuasive. The rejection has been withdrawn.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LATANYA CRAWFORD whose telephone number is (571)270-3208. The examiner can normally be reached on Monday-Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Landau can be reached on (571)-272-1731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C. Landau/
Supervisory Patent Examiner, Art
Unit 2813

/LaTanya Crawford/
Examiner, Art Unit 2813